

"RESPONSE UNDER 37 CFR 1.116-  
EXPEDITED PROCEDURE EXAMINING  
GROUP 1756"

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IN RE APPLICATION OF

KOHKOKU RI, ET AL.

SERIAL NO: 10/051,230

FILED: JANUARY 22, 2002

: EXAMINER: RODEE, C. D.

: GROUP ART UNIT: 1756

FOR: AROMATIC POLYCARBONATE  
RESIN, ELECTROPHOTOGRAPHIC  
PHOTOCONDUCTOR, PROCESS  
CARTRIDGE, AND  
ELECTROPHOTOGRAPHIC IMAGE  
FORMING METHOD AND  
APPARATUS

DECLARATION UNDER 37 C.F.R. § 1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Now comes Shinichi Kawamura who deposes and states:

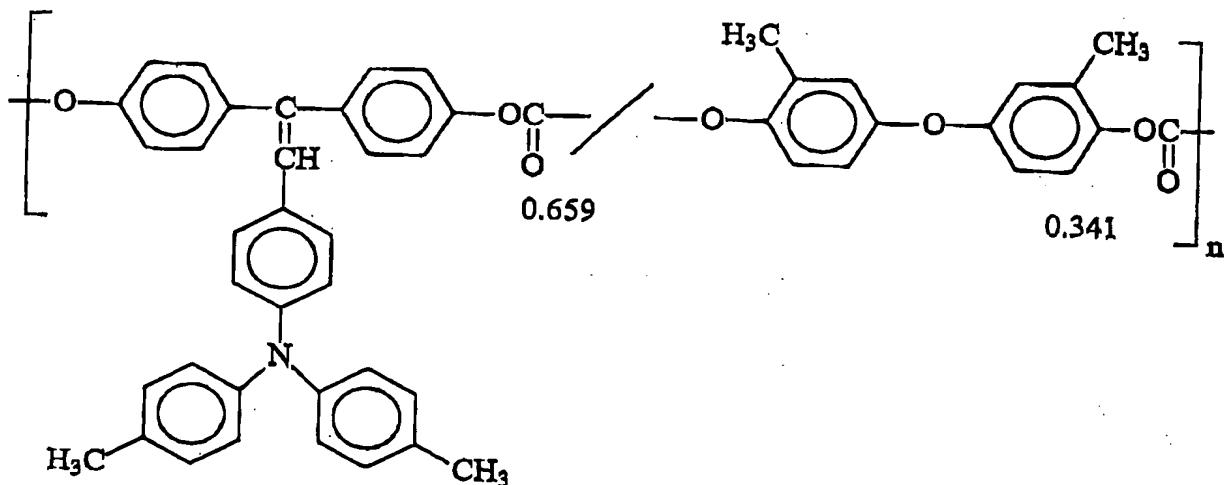
1. I am a graduate of Osaka University and received my master degree in the year 1996.
2. I have been employed by Ricoh Company, Ltd., for 7 years as a Chemical researcher in the field of electrophotography.
3. The following experiments were carried out by me or under my direct supervision and control.

Synthesis Examples (1) to (5)

Polycarbonates (1) to (5), below, were prepared according to the procedure of Example 1-1 of the present specification (at pages 88-91), except that the ratio of monomers was changed as indicated below.

The molecular weight, elementary composition, and glass transition temperature of the resultant resins are described below.

**Poly carbonate resin (1)**



Number of average molecular weight: 67,000

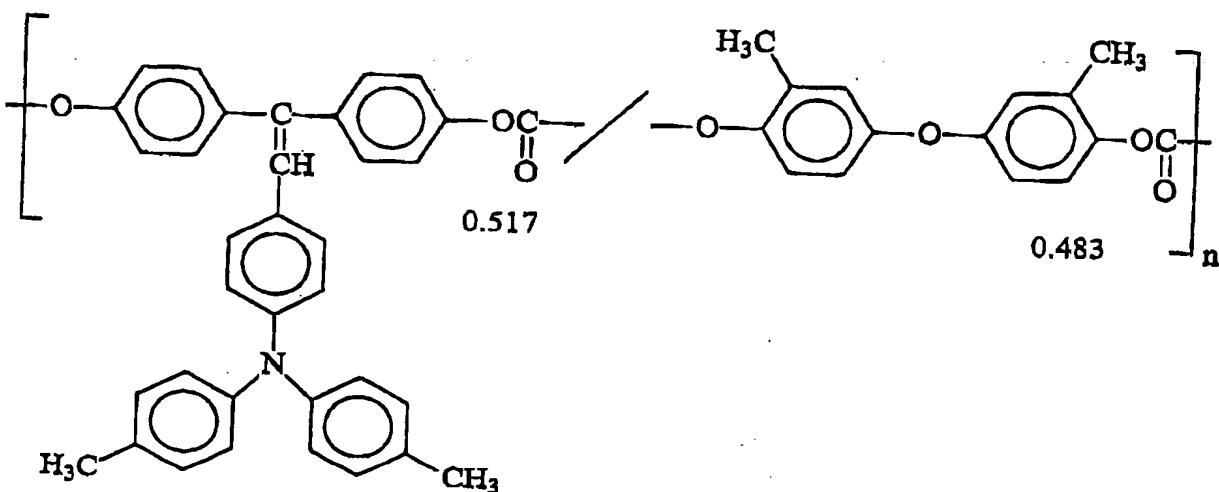
Weight average molecular weight: 227,300

Elementary composition:

	C (%)	H (%)	N (%)
Measured value	79.87	5.09	2.30
Calculated value	79.98	5.21	2.18

Glass transition temperature: 174.7°C

Polycarbonate resin (2)



Number of average molecular weight: 67,200

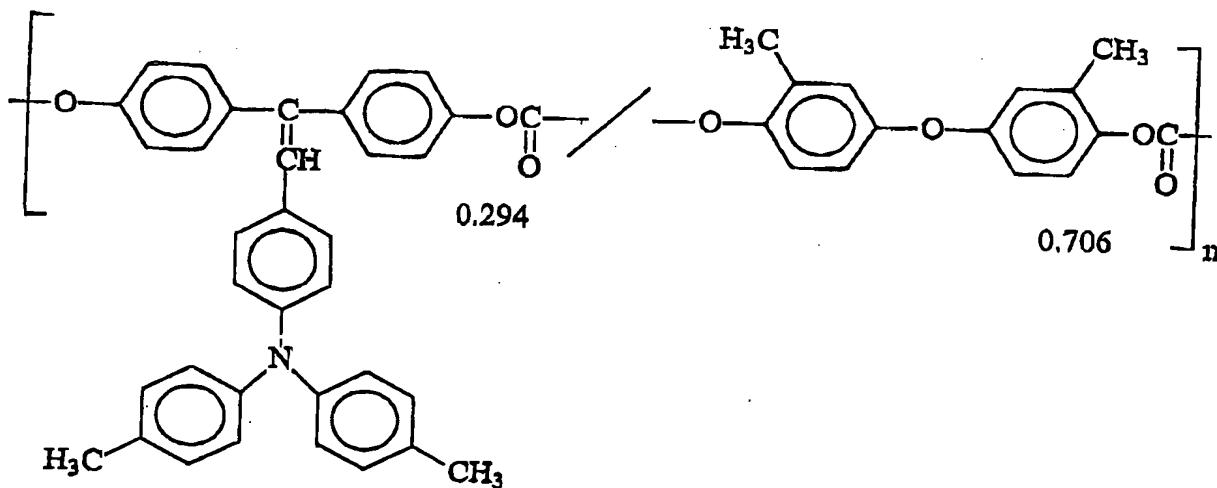
Weight average molecular weight: 198,500

Elementary composition:

	C (%)	H (%)	N (%)
Measured value	78.56	5.04	1.86
Calculated value	78.59	5.14	1.87

Glass transition temperature: 163.8°C

Polycarbonate resin (3)



Number average molecular weight: 71,600

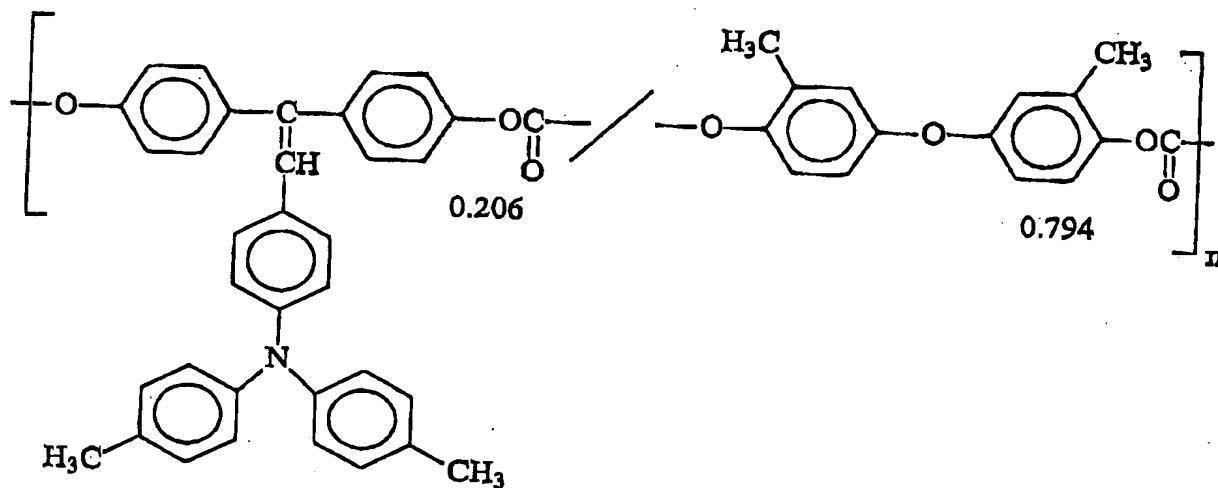
Weight average molecular weight: 175,300

Elementary composition:

	C (%)	H (%)	N (%)
Measured value	75.91	4.95	1.34
Calculated value	75.83	5.00	1.25

Glass transition temperature: 142.3°C

Polycarbonate resin (4)



Number average molecular weight: 55,500

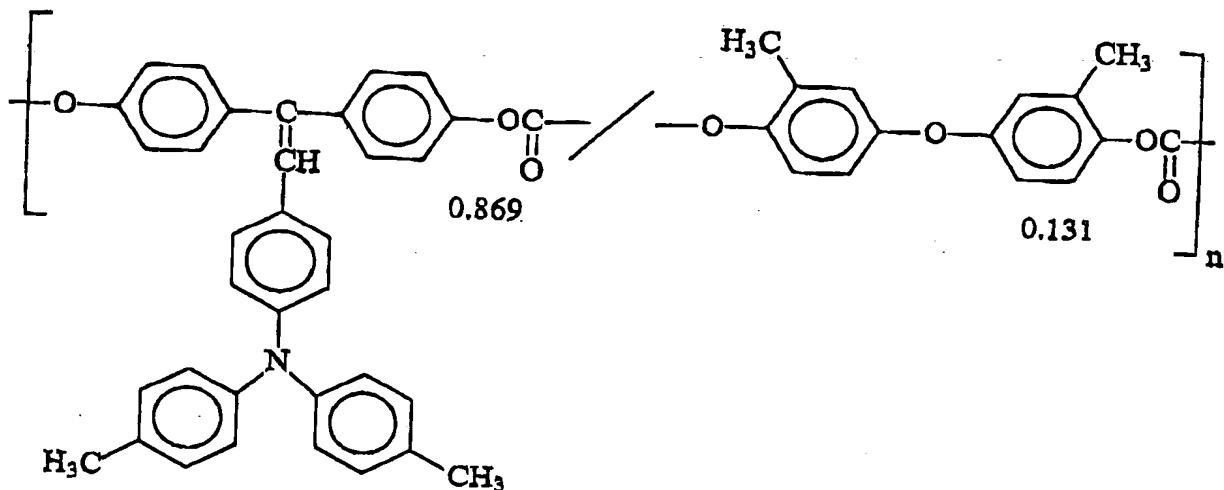
Weight average molecular weight: 128,500

Elementary composition:

	C (%)	H (%)	N (%)
Measured value	74.42	4.88	1.03
Calculated value	74.45	4.93	0.93

Glass transition temperature: 131.5°C

Polycarbonate resin (5)



Number average molecular weight: 71,600

Weight average molecular weight: 168,100

Elementary composition:

	C (%)	H (%)	N (%)
Measured value	81.77	5.30	2.59
Calculated value	81.63	5.30	2.55

Glass transition temperature: 182.5°C

Examples (1) to (5)

A photoconductor was prepared according to the procedure of Example 2-5 of the present specification (at pages 106-107), except that each of the polycarbonate resins (1) to (5), above, was used as the polycarbonate resin.

The photoconductors of Examples (1) to (5) were evaluated as described at pages 102 and 105 of the present specification, and compared to the "bisphenol A" polycarbonate of Nagai (at cols. 66-67). The results are reported in the table below.

	V <sub>m</sub> (-V)	V <sub>0</sub> (-V)	E <sub>1/2</sub> (lux · sec)	Abrasion (mg)
Ex. (1)	1735	1547	1.38	0.89
Ex. (2)	1813	1638	1.48	0.71
Ex. (3)	1787	1640	1.80	0.54
Ex. (4)	1802	1666	2.11	0.33
Ex. (5)	1688	1474	1.22	4.07
Ex. 3 of Nagai	1475	979	1.12	> 25.0

4. The data of the table above show that while the V<sub>m</sub>, V<sub>0</sub>, and E<sub>1/2</sub> values for the photoconductors comprising a polycarbonate according to the claimed invention are comparable to the most similar photoconductor of Nagai (i.e., prepared from a "bisphenol A" polycarbonate which has the same charge transport component), but have significantly improved abrasion resistance over a wide compositional range.

5. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

6. Further deponent saith not.

Shinichi Kawamura  
Signature

April 11, 2003  
Date